# W. E. DUNN MFG. CO.

HOLLAND MICHIGAN, U.S.A.

# COMPLETE EQUIPMENT FOR THE MANUFACTURE OF CONCRETE PRODUCTS

BUILDERS OF
DUNN HEAVY OIL ENGINES

# Order Concrete Machinery Direct From This Catalog and Save 5%

CONCRETE workers and manufacturers of concrete products can safely anticipate big business for this and several years to come. Building and repair work will be present in huge volume; men and equipment will be taxed to the utmost. A lifetime opportunity is open to every man in the concrete industry to realize a golden harvest.

Today is the time when you should rehabilitate your plant and equipment. You cannot afford to work by hand when machinery is available to give better results at lower costs. You cannot afford to hinder your progress by out of date or unsatisfactory equipment when improved methods and machinery are available.

We anticipated the post-war demand for concrete machinery, and the kind likely to be required. And our line has been broadened and strengthened to meet the requirements of today. Many articles have been improved or discarded; much new equipment has been added. So that the contractor or plant equipped with new Dunn machinery is in position to produce good work in large volume and at lowest possible costs of manufacture.

All through the war we have retained close contact with old customers, and are able to satisfy their present requirements exactly. Dunn quality was maintained, even though it entailed sacrifice of profit on many occasions. We considered it our duty not to advertise the greater part of our line during the period of the war, and devoted our facilities to the manufacture of equipment essential to the times. At the same time we used reasonable discretion in planning and providing for the period when our full line would be urgently needed; that is right now.

This catalog is the first presentation of the new Dunn line, and deserves your careful consideration. We guarantee every machine or mold to be exactly as represented, and will refund money paid if, for any reason whatsoever, the article purchased is not as stated, or unsatisfactory in any way. We do not know of any selling plan that could be fairer than this.

There will be no decrease in the price of concrete machinery generally for many months, at least. Our normal prices are based on the price of basic raw materials (steel and iron) *after* the recent reduction was announced, and will hold good for the balance of this year. *From these normal prices we are allowing a five per cent cash discount when cash accompanies order.* Note the order blank enclosed.

## Terms

The discount from prices shown is for cash with order, but the purchase money does not become our property until after you have had 15 days' free trial of the equipment ordered, and have found it satisfactory. Thus you obtain a special discount without sacrificing the 15-day trial privilege. The same fair principle applies whether you prefer to pay for goods upon arrival at your station.

Responsible parties will be allowed thirty days' credit, but in these cases goods will not be invoiced at the normal prices. The trial privilege, however, is still allowed.

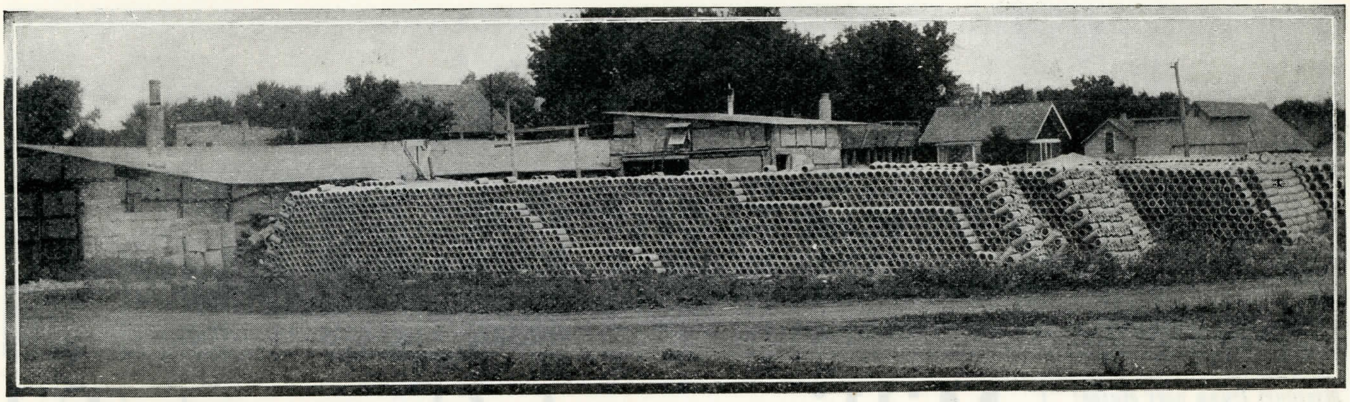
Use the order blank enclosed with this catalog, no matter upon which terms you buy.

## 15 Days' Trial

Every Dunn machine and mold is sold with the distinct understanding that the purchaser shall have 15 days' free trial.

In other words: The sale is not completed until the buyer has used the equipment in his own plant, and has convinced himself of its ability to satisfy his requirements in every particular.

If, for any reason, the equipment proves unsatisfactory it may be returned at our expense, and all money paid will be promptly refunded.



# 3,000 Opportunities for Cement Tile Plants

THE concrete products man *must* consider the manufacture of drain tile! To ignore it is deliberately side-stepping opportunity for present profits and a permanently good business.

Reports from commercial clubs, chambers of commerce, farmer's associations, and other authoritative sources are unanimous in the fact that there are not sufficient tile plants to meet the demand. *The shortage of plants runs into the thousands!*

The reason for it? War conditions—bigger crops—greater productivity of the soil—*the undertaking of drainage on huge scales.*

Four years ago the shortage of cement tile was realized; today it is acute. Hundreds of plants exist where there should be *thousands.* Almost every farming community offers the opportunity for the extensive sale of drain tile.

What happens in the community where no plant exists? The farmer or local building material dealer has it shipped in—*clay* tile, usually—paying for freight, for breakage, and other costs. No wonder the local cement tile plant can corral all the drain tile in his community—competing with the shipped in product on price, beating it in quality, and making a handsome profit to boot.

No freight charges to contend with, no high priced labor required, no depreciation of stock or materials, no experience necessary, no worry about selling all you can make, no competition to fear. And—better still—no big investment is needed to get in shape to manufacture on a profitable basis! In what other business are conditions so good?

*The Board of Trade in a Michigan town, population 5,000, reports that tile drainage is just beginning and that 85 per cent of the land in that vicinity requires drainage. The tile now used by the farmers are shipped in by freight.*

* * *

*The Business Men's Association in another Michigan town with a population of 4,000, reports there is a great future for drain tile in their locality. The land needs drainage badly—at least 90 per cent. Farmers are just commencing to use tile, but fifteen to twenty carloads were shipped in by railroad last year.*

* * *

*The Commercial Club in a Minnesota town, population 3,000, reports that 100 per cent of the land in their vicinity requires drainage. The farmers are just beginning to use tile and there is a splendid future for a local cement tile factory.*

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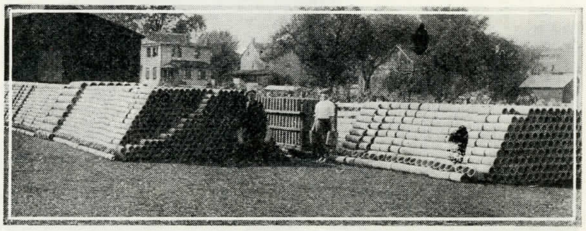
*An investigation made in a city in Michigan shows that last year the dealers sold over 60,000 clay tile—the larger farmers purchased over 30,000, direct from factories. These tile were shipped in from a distance of nearly two hundred miles. The material dealers sold 4-inch clay tile at $55.00 per thousand. Cement tile of this size could be made at a total cost of $16.00 per thousand at present prices of materials and labor in that city. There is an abundance of good sand and gravel within the city limits.*



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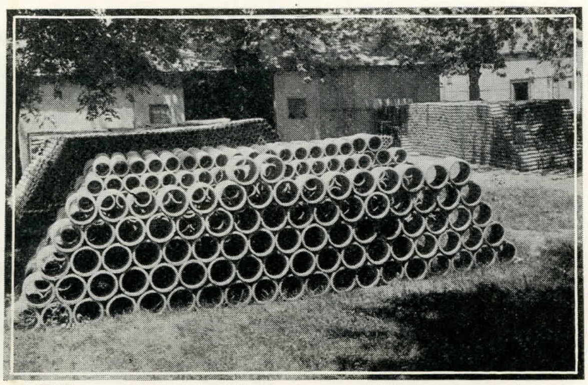
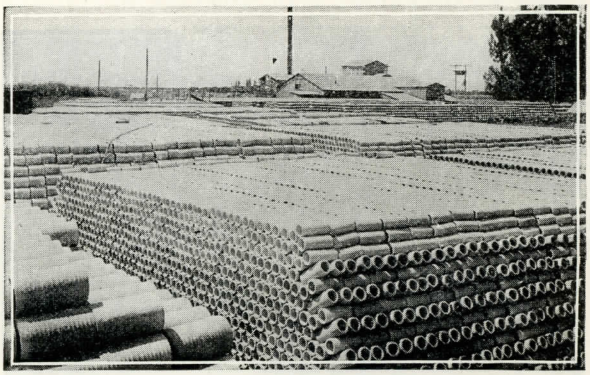
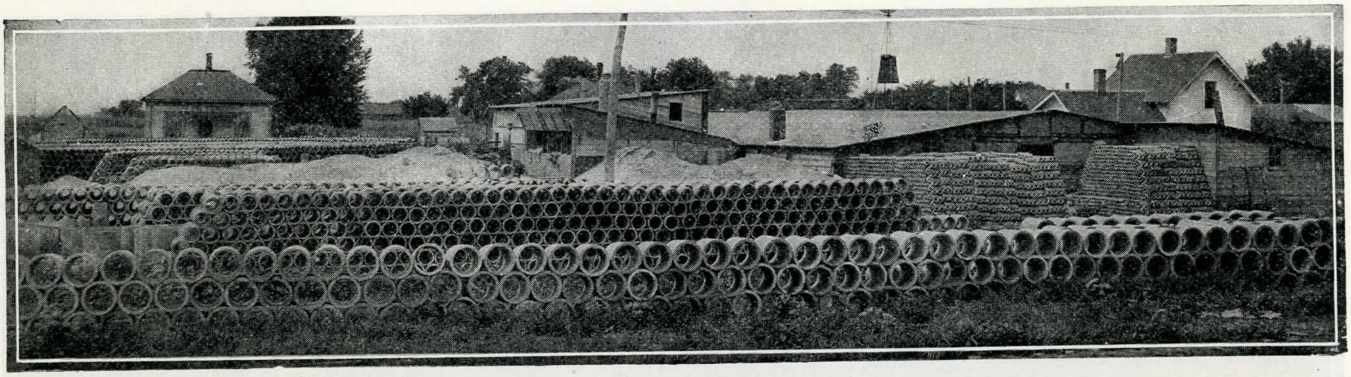


*Make an investigation in your vicinity. Perhaps your opportunity is right at your door. Upon request we will forward further information which will be of assistance in forming a more correct decision. Then, if your opportunity is not in your vicinity, write us fully. Perhaps we know just the right location for you.*





# Millions of Cement Tile are Actually Needed

TILE are made by the thousand while the demand is by the million. This is vouched for by reports from users of Dunn machines and a close survey of tile manufacturing and merchandising conditions throughout the country.

As an example of sales we may state that conservatively figured, more than forty million cement tile were produced last year by Dunn machines alone, and the majority of the plants producing these could have sold much more had they been equipped.

Remember, all these plants were *local* affairs, their output being taken by farmers right in the community. Seldom were any shipped out. If there was a scarcity right in localities where tile plants were located, imagine how acute the shortage must have been where the supply of tile had to be shipped in!

The same condition still prevails, and there are today many thousands of localities where cement tile plants could operate at full capacity and with large profits. There is no possibility of the market being overcrowded, nor is there anything to fear from clay tile competition. Cement tile is too firmly established as a high quality proposition, and manufacturers are always able to compete on a price basis, without sacrificing profits, when necessary.

It should take little comment from us to point out the wonderful possibilities existing in the tile business for the cement products manufacturer, the lumber and material dealer, the building contractor, and others whose business, equipment or standing furnishes the opportunity to start in a proposition where the element of success is so great—where everything is in their favor.

*A Missouri Dunn user states: "I can say I sold all I made, and could have sold five times the amount if I would have had them. Of all the tile machines I have been able to see so far I prefer the Dunn. I want to ask you if you are working on that clutch."*

* * *

*This was from Ontario: "We have made over 100,000 tile since we received it last November. We just received one order for 70,000 four-inch tile and orders for 30,000 other sizes. If orders come in at this rate, we will have to have another of your machines."*

* * *

*An Oregon manufacturer reports: "The outlook is very good for the coming year, and as we have not had one complaint from our drain tile buyers, we feel that our sales will be doubled this year."*

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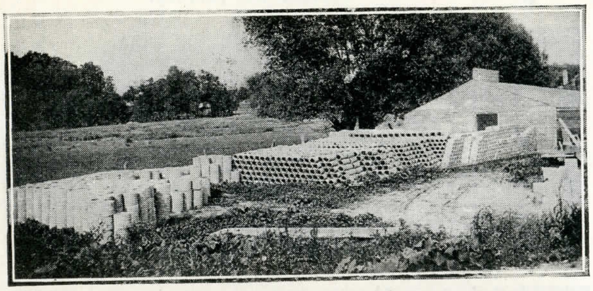
*And a later report: "Have just landed the Portland Railway Light and Power Co. for a carload of four-inch cement drain tile. They are the largest corporation in the Northwest and use about on an average of 90,000 feet of four-inch tile per year."*



*An Illinois customer contributed this: "I have not more than 3,500 now for the spring. Had nearly 30,000 last fall, this being my second year; it seems they are taking well."*

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*A New York tile maker says: "I cannot make any tile ahead. They go as fast as I can make them. I sold a carload today."*

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*A Dunn customer in Minnesota reports: "We are putting in a night shift and intend running the Automatic Tile Machine day and night and may have to put in another machine."*

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*A tile manufacturer in Iowa states: "Send me the Dunn Automatic Machine at once, as my customers are 'Hollering their heads off' for tile."*

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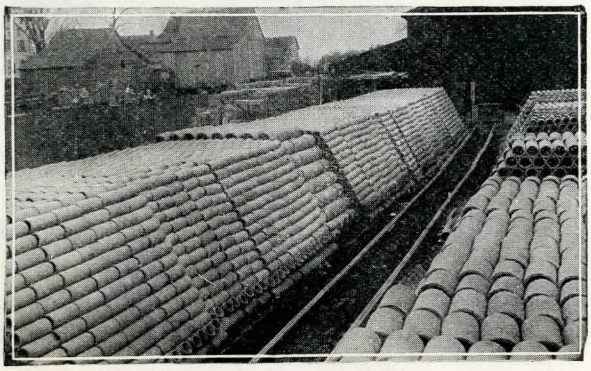

*Another customer reports: "We are about 8,000 tile behind in orders and more orders are coming every day. I am selling more tile than I can possibly make."*

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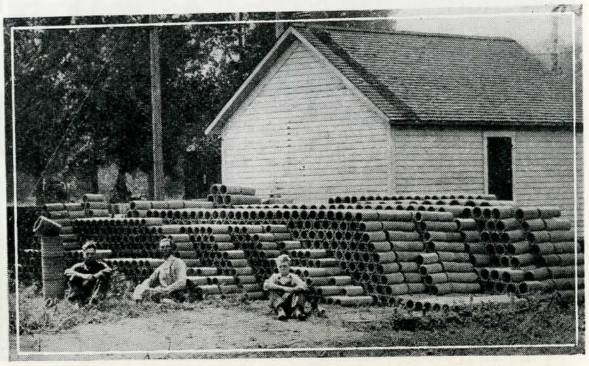
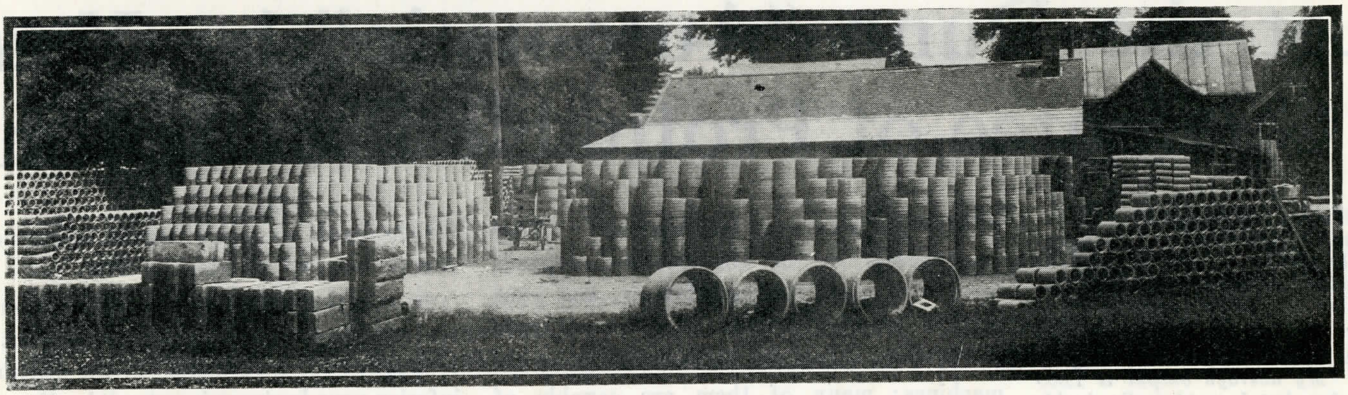
*Let us post you on the tile situation as it affects YOU—in your locality. We are in touch with communities needing tile plants, and can post you on good locations.*





# Average Profit 47%

WE HAVE stated the manufacture of cement drain tile is profitable. *It is!*

On various occasions we have obtained reports from plants in which Dunn machines are operating, and from the collective data we have obtained the various profits made, and from this we quote *average* profits.

We have been conservative in our figuring. In all cases we allowed for depreciation of equipment, interest on investment, rent, power and other incidentals. We allowed for higher prices being paid for labor and materials than those actually paid.

And the average profit was 47 per cent!

The manufacture of cement tile is a *business*—not a gamble! It is necessary to *invest*, but not to speculate! It's a case of supplying an existing demand and preparing yourself to do it. Which naturally means installing the necessary equipment.

A merchant doesn't consider it a speculation to rent a store, put in a stock of goods, and hire help! He actually figures on doing a certain amount of business and making some profit. There is no reason why anybody going into the tile business cannot figure the same way, with the added factors in his favor of less competition and a far greater margin of profit than the merchant usually has.

Not only is the tile business profitable, it is also *permanent.* Drain tile will be used in increasing volume for many years to come, simply because it is the most desirable product for the purpose. It is neither a fad, a fashion, nor an experiment.

*Four-inch tile cost in the average location, $16.50 per thousand to make and usually sell for $35.00.*

*Five-inch tile with average present prices of materials and labor, would cost $19.00 and easily sell for $48.00.*

*Six-inch tile cost $25.00 and sell for $55.00.*

*Eight-inch tile cost $31.00 and sell for $80.00.*

*Ten-inch tile cost $47.00 and sell for $120.00.*

*Twelve-inch tile cost $65.00 and sell for $150.00.*

*The product sells at an average of 47 per cent net profit.*

*Every thousand dollars worth of tile sold brings a net profit of $470.00. The profit on six carloads will more than pay for the necessary Dunn equipment.*

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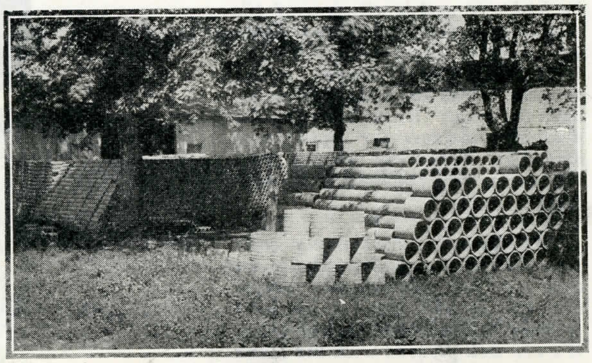
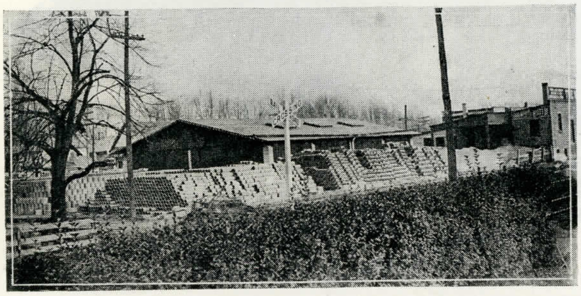
*Upon request we will send a complete set of bulletins in which the tile business is described in detail. The data contained has taken years and a good deal of money to collect, but it represents the most reliable information on the tile business it is possible to obtain.*

*Among the information given is: Costs, Profits and Possibilities in the Tile Business; Manufacturing Methods; Why Cement Tile is Urgently Required; and other data of a like character. From reading these you can obtain a definite idea of the tile business, and can then decide whether or not to engage in it.*

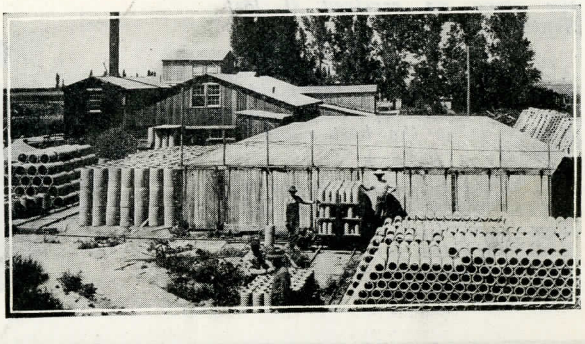
*We cannot hope to sell you any tile making equipment until you have been fully posted on cement tile as a business proposition. That is why we have gone to the most logical sources—established tile makers—for absolutely reliable and authoritative facts and figures.*

*It is no more trouble for us to answer questions than it is for you to ask them. We want you to engage in the tile business, but we want you to go into it with your eyes open. Therefore we invite or urge you to investigate it thoroughly, and allow us to get down to bedrock on your individual conditions—conditions which call for individual planning and operation.*





*Remember, there is no obligation or cost to you for whatever preliminary work we do. At all costs we aim to satisfy you.*



# Let the Dunn "Automatic" be *Your* Guarantee of Profitable Production

*"We are highly pleased with the Dunn Tile Machine. It works perfectly and we do not see how the machine could be better."—E. M. F. Co.*

* * *

*"I am well pleased with the Dunn Machine and the quality of tile. My average output is 1,000 per day, but I could easily double this amount."—C. W. M.*

* * *

*"The quality of tile made on the Dunn Machine has proven to be equal to any made. My tile have met with the approval of all who have seen and used them. They have pronounced them superior in quality to the clay product in every respect."—J. W. O.*

* * *

*"I have made as many as 1,000 tile of six-inch size in four hours with one man to help and done the mixing by hand. The tile are giving entire satisfaction to the farmers because they are all uniform in size."—V. S.*

* * *

*"Our average for three weeks' run was 1,836 feet of tile per day of eight and one-half hours with the Dunn No. 1 Machine. Just landed an order for a carload of tile from a customer that uses about on the average of 90,000 feet per year."—C. H. B.*

* * *

*"I claim the Dunn Machine is made of the best material that can be had. It makes all sizes of tile in good and first class shape. Have had perfect satisfaction with all tile sold. The farmers prefer cement tile as they stand freezing and thawing. Have been in the drainage business for eight years and have taken up several clay tile drains and replaced them with cement."—C. G.*

* * *

*"We have received many compliments on the quality of tile we turn out and the farmers prefer our tile to the clay which have previously been sold in our town. We are well pleased with the Dunn machines and made over 100,000 tile since we received it last September."—J. N. S.*

* * *

*"I would not think of buying another tile machine for making the smaller sizes of tile than the Dunn. It is the best made."—J. B. H.*

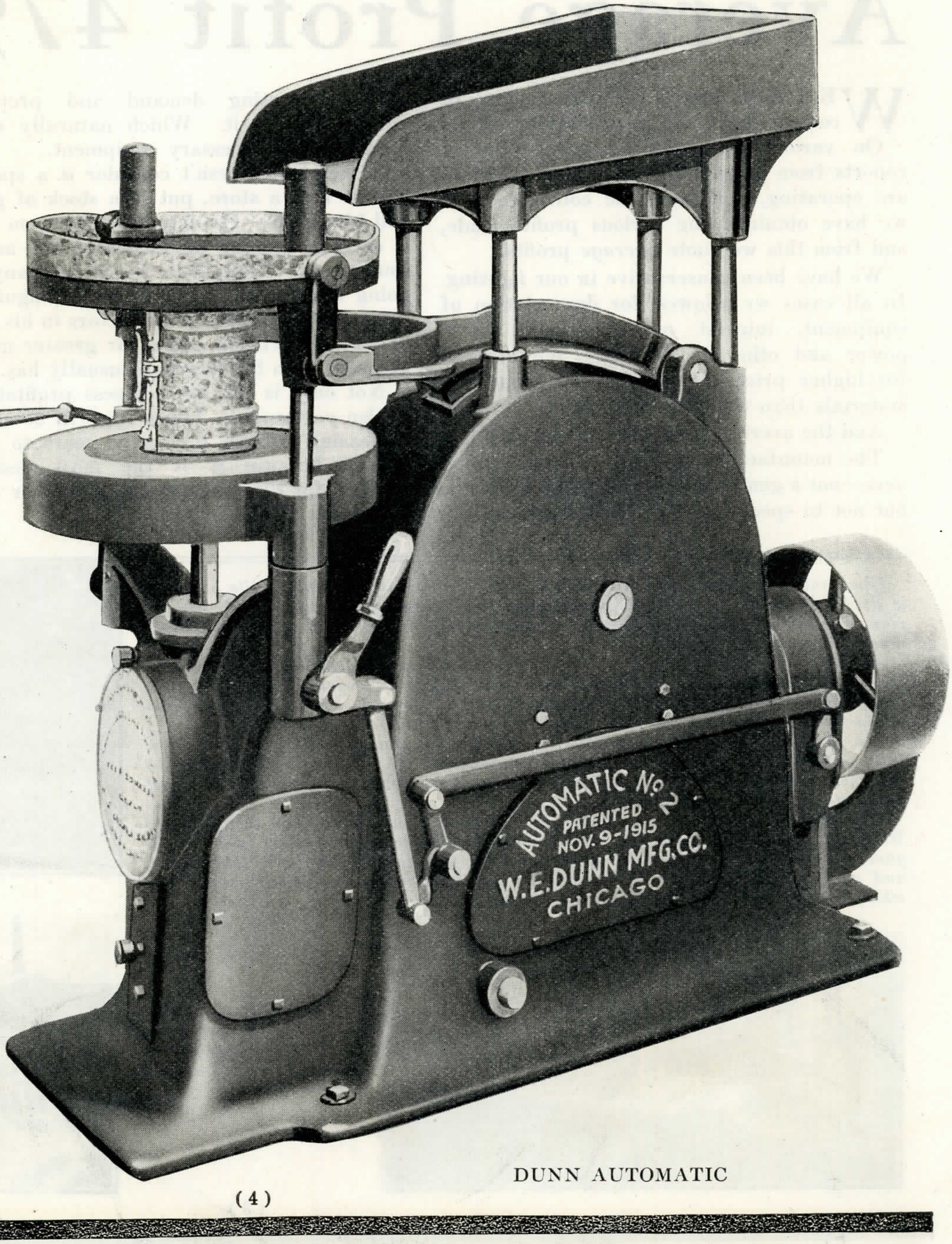
* * *

*"The Dunn Machine makes tile as perfect as it is possible to make them. Cement tile are far superior to the clay tile for drainage and we are unable to fill orders."—C. W. P.*

CONSIDER this fact carefully: Your success in the tile business depends upon how good your product is, and your product is no better than the equipment used.

There are naturally different kinds of tile machines; many of them are capable of making a good grade of tile; others are built for cheapness alone, and are not mechanically able to turn out satisfactory tile.

In selecting equipment, remember that you are not simply buying a *machine* but the foundation for a business. If the machine is inferior your business is not solid. You can't sell unsatisfactory tile and hold customers.



DUNN AUTOMATIC

The use of the Dunn Automatic insures the production of the highest grade cement tile, at low manufacturing costs, at a speed that enables a highly profitable operation, and in all sizes from three to ten inches diameter. At the same time, it necessitates only a nominal investment.

The operation of this machine is so thoroughly and precisely planned that, with it, the manufacture of tile is as near automatic as it can be. The work of the operator consists simply of feeding the material, removing the finished tile, and replacing the empty casings into position.

A large, one-piece casting, weighing over 1,200 pounds, forms the base and provides weight where it is needed—low down. This base encloses all operating parts completely, protecting them from concrete, sand, dirt, etc. It forms the main bearings for all parts, preventing shafts, gears, and other parts from working out of alignment; further, it eliminates all vibration.

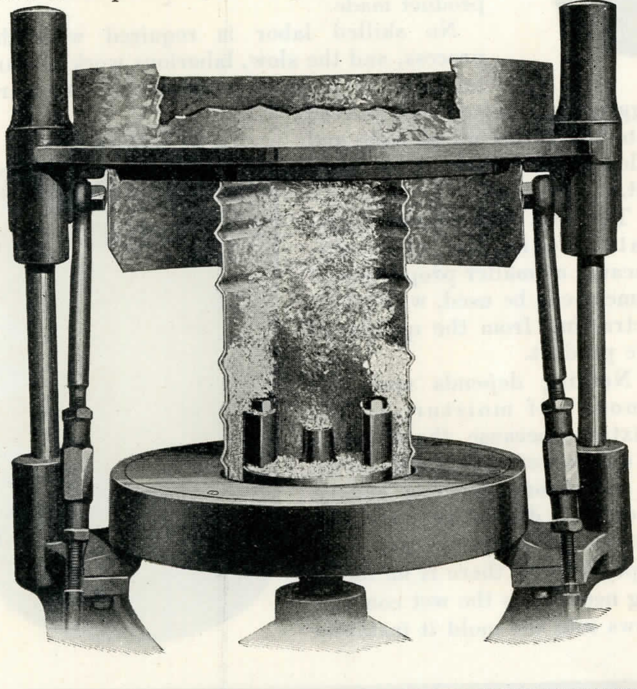
The machine is so designed that while each part is large and powerful, it occupies less space than is usually required by other machines of similar capacity. Still, every part is readily accessible.

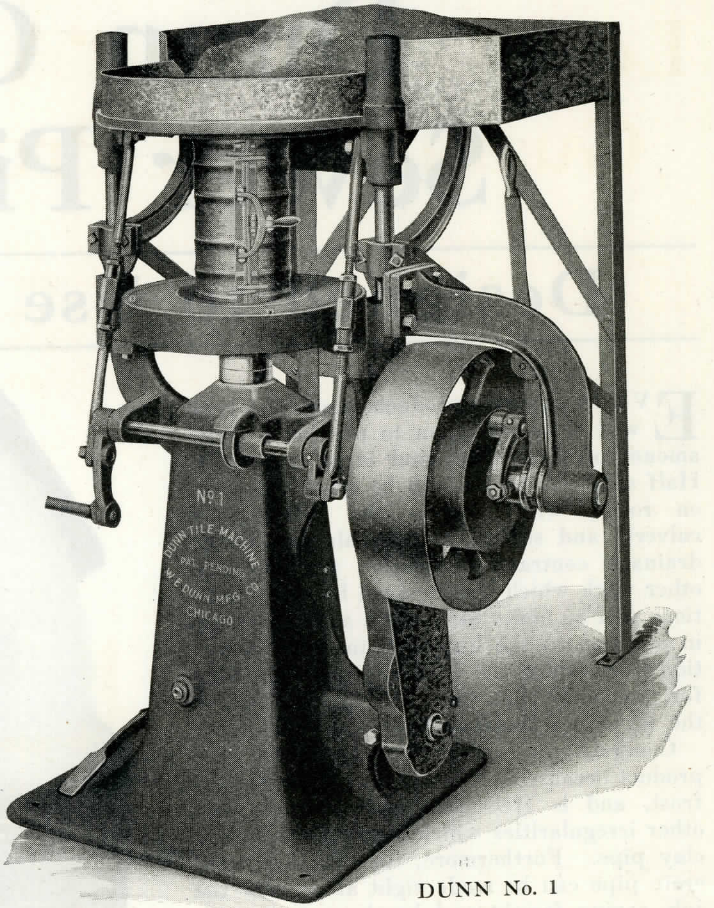
The great strength and durability of the machine, and every part of it, will never be completely utilized in tile making. Each part has a degree of reserve strength far in excess of the machine's actual requirements.

The underhead packer principle of the Dunn Machine guarantees each tile being more densely and more uniformly packed than is possible with the usual "overhead" type of machine. The packer head, working from below, travels through each tile twice, giving double the packing permitted by the ordinary machine.

Every movement is utilized. The operation of making a tile starts at the bottom. The bottom of the tile are packed just as hard as the rest, and it is not necessary (as on some machines) to turn many tile over when stripping casings on account of improper packing.

On the downward stroke of the packer head, the surplus moisture in the mixture is drawn to the inside surface, and the packer head trowels to a perfect finish. This is to a drain tile what a top dressing is to a cement sidewalk. It makes an impervious, water-proof surface.





DUNN No. 1

The Dunn Automatic has a rated capacity up to 3,600 tile per day, but with favorable plant conditions an excess of this can be obtained. We can safely guarantee for this machine a greater production of better tile per man, than any other machine made.

Tile are made in 3, 4, 5, 6, 7, 8, 10, 12, 14 and 16-inch diameters, by 12 inches in length. The diameters are inside measurements.

## DUNN NO. 1 TILE MACHINE

Maximum profits come from the machine which produces the greatest number of tile, in the least possible time, and at the lowest possible cost of manufacture; that is the Dunn "Automatic." However, there are many instances where the tile maker prefers a smaller machine, and for these cases the Dunn No. 1 will be found very satisfactory.

In principle of operation and general design, the No. 1 resembles the "Automatic," the capacity being from 1,500 to 2,000 tile per day, sizes ranging from three to thirteen inches diameter.

Like the Automatic, the No. 1 has all working parts enclosed in the heavy base. The double packing and troweling feature is embodied. The same simplicity of operation prevails. While three men are necessary to secure maximum production, the machine can be operated by two men, or even one.

Our position as pioneers in the development of the cement tile business enables us to offer, not only the most efficient line of equipment, but a degree of co-operation that tile makers cannot afford to ignore.

# Dunn Concrete Sewer Pipe Molds

## Designed to Use the Slush Process

EVERY concrete products plant this year will be called upon to provide a large amount of sewer pipe and large drain tile. Half a billion dollars will be spent this year on roads, which means the building of culverts and sewers in big volume. Large drainage contracts, irrigation projects and other work which was delayed by war conditions will be undertaken right away. These, in addition to the huge amount of reclamation work which the Government is planning for, are bound to create the biggest boom in the sewer pipe business ever experienced.

Concrete pipe is preferred to the clay product because it is better able to withstand frost, and is free from warped ends and other irregularities which are so prevalent in clay pipe. Furthermore, the fact that concrete pipe can be made right at or near the job, saving freight and breakage in transit, is another advantage which buyers consider.

There are three different ways to make concrete pipe. One is the machine-made method, using a semi-dry mixture; the second is the hand-tamping method, also using a semi-dry concrete; the third is the Dunn Poured Process, using a wet mixture.

The first gives good results, but entails a large investment for the machine, and a goodly number of experienced men. Unless you figure on making pipe on a huge scale, this method should not be considered.

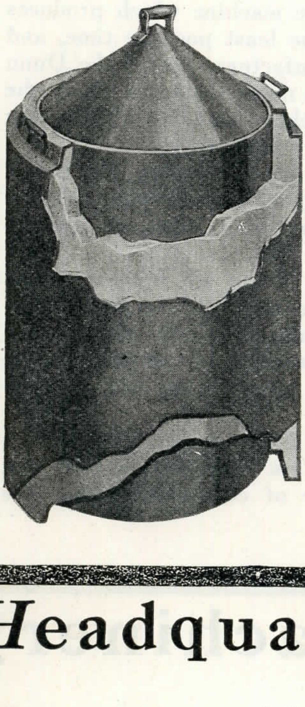
The hand-tamping method, as its name implies, consists of tamping the concrete into the mold. This is done by alternately filling and tamping the narrow space between the inner and outer casings of the mold—a space that in a 12-inch pipe is but 1½ inches wide—until the mold is filled. The possibility of weak spots is apparent. Again, if the concrete is too wet the newly-made pipe will collapse; if too dry, a poor, porous product is the result. Not only must the mixture be of uniform consistency, but the work of tamping must also be uniform, which is practically an impossibility with hand work. It can also be realized that it is almost impossible to use reinforcing or a coarse aggregate.

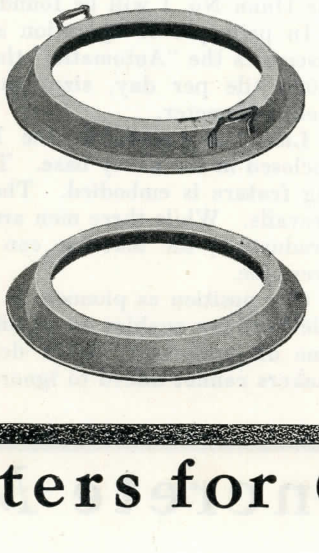
The Poured Process, using Dunn Molds and a wet mixture, is the simplest method and makes the highest grade of pipe. It insures a product of even more uniform consistency than is made on a machine, and of course requires but a fraction of the investment compared with the cost of a machine. And while this method needs rather more equipment than the hand-tamping method, the slight increase in first cost is more than offset by the superior results in quantity and quality of the product made.

No skilled labor is required with this process, and the slow, laborious work of hand tamping is entirely eliminated. A coarse aggregate is mixed wet, poured into the forms all at once and allowed to remain there until set.

The use of a coarse aggregate means an economy, because a smaller proportion of cement can be used, without its detracting from the quality of the product.

Nothing depends upon the amount of moisture in the mixture, because the concrete is mixed wet enough to run off a shovel or out of a bucket. Nothing depends upon the amount of tamping given each pipe, because there is *no* tamping needed; as the wet concrete flows into the mold it instantly





assumes proper shape and sets into a compact, homogeneous mass.

The mass is uniform, the walls are of uniform thickness, and the pipe is of uniform height; it cannot be otherwise. The result is a uniform, dense, smooth pipe that will ring like a bell when tested with a hammer.

A number of Dunn Molds can be placed in position on the floor, or on a car, and the whole batch filled at one time. Literally, dozens of molds can be filled this way in the time it usually takes to complete one using hand tamping. If cars are used they can be run under or near the mixer for filling, and when filled can be moved directly into the curing room or wherever they are to remain while setting. The economy of this method is very plain.

The usual car used in concrete products plants will hold from ten to twenty molds, depending upon the size of pipe being made.

In the summer, when the weather is warm, or when steam curing is used, the molds can be filled twice each day; once in the morning and again late in the afternoon. In cold weather we advise leaving the forms on for a full day.

Pipe made on Dunn Molds have deep socket ends of a true circle, and when laid with cement mortar make perfect joints.

As there are no projections, the pipe can be rolled straight and handled without possibility of broken edges.

One of the most desirable features of the poured method is the ease of operation, all difficult work being eliminated, and all chance of guesswork.

When making socket end pipe the socket ring is first placed on the floor; the inside casing or core is then placed on the inside of socket ring and expanded by pushing down the wedging plate. When the latter is expanded to its farthest point, the casing is securely locked into position.

The outside casing is now placed on the outside of ring, and contracted and locked by bearing down on the wedging plate. The core centering plate is then placed on top, and the mold is ready for filling.

A wet mixture is then poured over the cone and instantly flows into the space formed by the two casings. When the concrete has set sufficiently to permit the removal of molds, the amount of time required for this having already been stated.

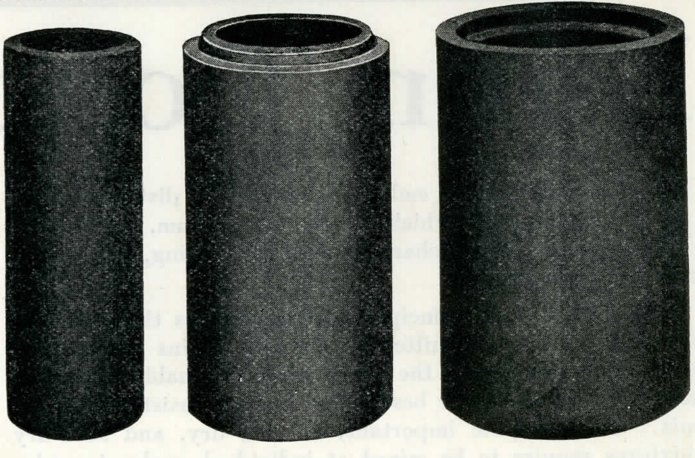
For making the reverse socket on the top of pipe, the top socket forming ring is placed on the top of the mold, and turned back and forth until the socket is formed. This should be done when the concrete is just beginning to set.

When making straight end tile, the molds are placed on the floor or wood pallet, and the operation is the same as previously described, except that a little care should be exercised to properly space the casings.

In removing the inner casing or core, the wedging plate is lifted upward which contracts the core from the concrete. The outer casing is expanded by lifting up the wedging plate, which expands the casing and holds it expanded for lifting from the finished pipe.

## Construction of Dunn Molds

Both inner and outer casings are made of polished steel and rolled to true circles. In the large diameter molds a heavier steel is used than in the smaller sizes. The wedging plate is used on both inner and outer casings, which not only expands or contracts them as desired, but also locks them in position either open or closed.



The wedging plate exactly conforms to the diameter of casings, and is made in different sizes so as to permit large diameter molds to expand or contract relatively more than molds of smaller diameters. Handles are provided on both casings to facilitate their removal from the finished pipe.

## Costs of Making Sewer Pipe and Tile

Approximate cost of making 100 feet of sewer pipe or tile with Dunn Molds and the Slushed Process. Proportions figured of one part of cement to four parts of stone or gravel. Sand at $1.00 per yard. Cement at $2.25 per barrel. Labor figured at $3.00 per day, including the use of a power mixer.

| Size of Pipe | Thickness of Wall | Cost of Cement | Cost of Sand | Cost of Labor | Cost of 100 Cu. Ft. | Cost per Foot |
|---|---|---|---|---|---|---|
| 8-inch | 1 -inch | $2.53 | $0.73 | $3.00 | $6.28 | 6.3 cents |
| 10-inch | 1⅜-inch | 4.50 | 1.25 | 3.00 | 8.75 | 8.8 cents |
| 12-inch | 1½-inch | 6.19 | 1.63 | 3.00 | 10.82 | 10.8 cents |
| 15-inch | 1⅝-inch | 7.88 | 2.25 | 3.50 | 13.63 | 13.6 cents |
| 18-inch | 1¾-inch | 10.13 | 2.63 | 4.00 | 16.76 | 16.8 cents |
| 20-inch | 1¾-inch | 12.38 | 3.13 | 4.50 | 20.01 | 20. cents |
| 24-inch | 2 -inch | 15.75 | 4.13 | 6.00 | 25.88 | 25.9 cents |
| 30-inch | 2½-inch | 22.50 | 6.00 | 7.50 | 36.00 | 36. cents |
| 36-inch | 3 -inch | 36.00 | 9.50 | 9.00 | 54.50 | 54.5 cents |

## Prices of Dunn Molds and Accessories

Each mold consists of one inside and one outside casing, and one cone centering plate. Rings are not included, but furnished at the following prices. One top socket ring is all that is required for any number of molds of the same size. We recommend at least two bottom socket rings for each mold.

| Inside Diameter of Pipe | Thickness of Wall | Price of Mold 30 In. Long | Price of Bottom Socket Ring | Price of Top Socket Ring |
|---|---|---|---|---|
| 6 | 1 | $10.50 | $0.40 | $0.75 |
| 8 | 1 | 13.00 | .50 | .90 |
| 10 | 1⅜ | 14.00 | .60 | 1.10 |
| 12 | 1½ | 15.30 | 1.00 | 1.25 |
| 15 | 1⅝ | 16.20 | 1.40 | 1.60 |
| 18 | 1¾ | 18.00 | 1.70 | 2.00 |
| 20 | 1¾ | 22.80 | 2.00 | 2.40 |
| 24 | 2 | 26.50 | 2.75 | 3.25 |
| 30 | 2½ | 34.50 | 4.00 | 4.50 |
| 36 | 3 | 40.00 | 5.75 | 6.50 |

## Price of Dunn Special Culvert Molds

| Inside Diameter of Pipe | Thickness of Wall | Price of Mold 30 In. Long | Price of Bottom Socket Ring | Price of Top Socket Ring |
|---|---|---|---|---|
| 12 | 2 | $16.25 | $1.40 | $1.90 |
| 15 | 2¼ | 20.00 | 2.00 | 2.40 |
| 18 | 2½ | 24.00 | 2.60 | 3.00 |
| 24 | 3 | 31.50 | 3.50 | 4.00 |
| 30 | 3½ | 40.00 | 6.00 | 6.50 |
| 36 | 4 | 46.00 | 7.00 | 7.50 |

A discount of 10 per cent allowed when six or more molds are ordered at one time. We strongly recommend this quantity be the minimum quantity purchased.

Prices on special size molds quoted on application.

# Dunn Concrete Mixers

DUNN MIXERS embody a number of distinctive features, chief of which are the tilting drum, four mixing blades, ease of charging and discharging, and sound, sturdy construction.

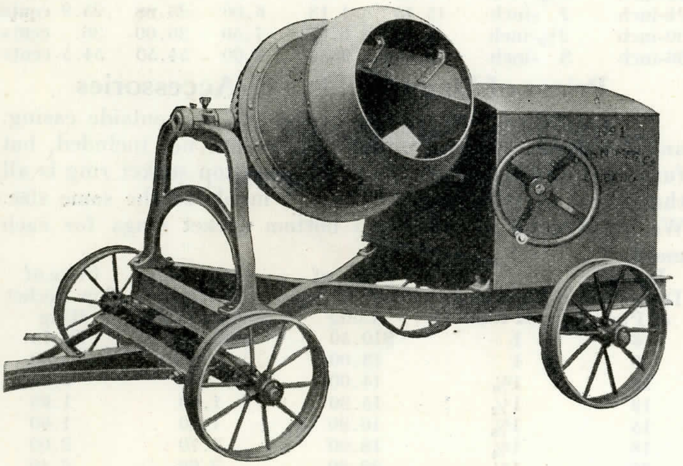
The tilting drum principle is recognized as the standard, its efficiency being admitted by the best brains in the business. In Dunn Mixers the tilting principle enables the drum to revolve at the angle best suited to the consistency of the mix. This is quite important, as wet, dry, and semi-dry mixtures require to be mixed at individual angles in order to secure the most satisfactory results.

There are good reasons for the *long drum* and *four blades.* While being mixed the concrete must travel back and forth, and the longer the travel the better the mix. For this reason the drum on the Dunn No. 1 is *seven inches longer* than drums on other mixers and has, consequently, that much more *mixing efficiency.* When we say the Dunn has a capacity of five cubic feet to the batch we mean it has the ability to perfectly mix that amount—not simply to hold it.

The mixing is accomplished by *four* (not three) blades or plows. Two are placed at the back and throw the concrete to the *front;* the other two are placed at the front and throw the material to the *back.* The position and operation of these blades, together with the rotary movement of the long drum, imparts a corkscrew motion to the concrete, and prevents all possibility of the large particles remaining at the front of drum, while the finer particles remain at the back.

Coarse, heavy material will respond to the laws of gravity more readily than fine, light material; this explains why the coarse particles in concrete will separate themselves from the sand if the mixing is left to gravity, and further explains why the Dunn four-blade principle of throwing the mixture two ways is superior to the usual three-blade method of throwing the concrete only one way, leaving gravity to do the rest.

The Dunn No. 1 Mixer can be charged on either side, while the drum is running, and mixing commences as soon as the material is thrown into the drum. When mounted on trucks it is equipped with two hand wheels, one on each side, enabling the operator to tilt the drum from either side of mixer, whichever is most convenient. A few turns of the hand wheel by the operator from either side discharges the drum. It can be charged on one side where sand and cement are convenient, and, when mixed, discharged on the other side into a wheelbarrow or on the floor. When the drum is in position for charging the bottom is close to the floor, assuring a low shoveling height.



No. 1 on Truck

### Specifications

**Style:** Batch mixer.

**Capacity:** 5 cubic feet to the batch.

**Size of Drum:** 30 inches inside diameter, 35 inches long.

**Discharge:** Hand wheel.

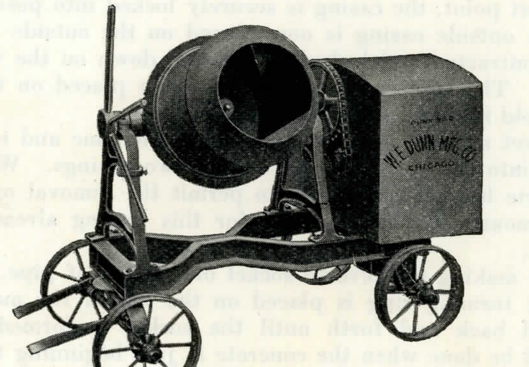
**Mounting:** Steel truck. Pulling bale standard equipment, but wagon tongue can be furnished at $4.00 extra.

**Truck Wheels:** Steel; staggered spokes, 20 inches diameter; 4-inch face.

**Drive:** Water cooled, 4-cycle gasoline engine, 3 H. P.; directly connected by gears.

**Weight:** 1,800 pounds.

Price on Request


W. E. DUNN MFG. CO.
CHICAGO

No. 0 on Truck

### Specifications

**Style:** Batch mixer.

**Capacity:** 3½ cubic feet to batch.

**Size of Drum:** 24 inches diameter, 28 inches long.

**Discharge:** Lever, with adjustable brace.

**Mounting:** Steel trucks. Pulling bale furnished only.

**Truck Wheels:** Steel, 20 inches diameter, 4-inch face.

**Drive:** Water cooled, 4-cycle gasoline engine, 1¾ H. P.; connected by heavy steel chain.

**Weight:** 1,250 pounds.

Price on Request

The large opening of the drum—another Dunn feature—permits the operator at all times to see the concrete as it is being mixed, eliminating any possible chance of getting the material too wet or too dry, making it unnecessary to discharge a part of the batch, as is often the case with mixers having small openings. The large openings also make the drum easy to clean and easy of access.

Any Dunn Mixer will perfectly mix a batch of concrete every minute. This is for the actual process of mixing, and is the time taken to produce a perfectly homogeneous mass. It does not include the time taken to throw in the material or discharge the contents. No mixer made is faster than the Dunn. In actual service the Dunn No. 0 has mixed from 30 to 40 cubic yards a day; the Dunn No. 1, 50 to 60 yards a day.

## Construction

**Drum.** The top part of the drum on the Dunn No. 1 is constructed of 12-gauge boiler plate, securely riveted (14-gauge on the Dunn No. 0). This is much heavier than is commonly used. The bottom of drum is made of cast iron.

The long center bearing on which the drum revolves is perfectly machined (as well as the drum itself). It is the careful construction here that minimizes vibration and makes Dunn Mixers run easy.

**Yoke.** The yoke supporting the drum is hollow and cast in one piece, making it exceptionally strong and rigid, also enabling it to withstand the hardest wear, and eliminating vibration. Yet, there's no dead weight. All gears are accurately machined and covered, protecting them from sand and dirt and affording safety to operator.

**Frame.** The frame on all Dunn Mixers is constructed of cast iron, reinforced and braced, which, together with the extra wide legs, assure absolute strength and rigidity. The entire weight of the drum and contents rests directly upon the frame and too much attention cannot be given this feature.

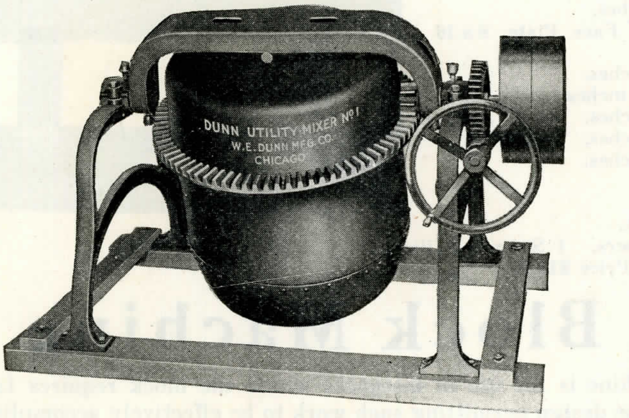
**Trucks.** Constructed of two steel channels bent, braced, and reinforced as shown. We use 5-inch channels on the Dunn No. 1 and 4-inch on our No. 0. These are mounted upon wide, heavy, unbreakable steel wheels, 20 inches diameter with 4-inch face.

Our method of bending in which the two channels meet in the center, permits the mixer to be turned in a small space and allows the wheelbarrow to be placed directly under the drum to receive the contents.

**Skids.** Where mixers are intended for permanent use in plants, users generally prefer them mounted upon skids, and we illustrate three different types for this service. The omission of trucks means the omission of engine, in place of which we equip the drive shaft with tight and loose iron pulleys or friction clutch pulley for connection with your engine shaft.

**Engine.** We equip all Dunn Mixers on trucks with a guaranteed water cooled, four-cycle gasoline engine. The No. 1 Mixer is equipped with a three horse power engine, the No. 0 with a 1¾ horse power engine.

**Engine Housing.** We enclose our engine all around with a heavy steel housing, assuring protection from dust and dirt.

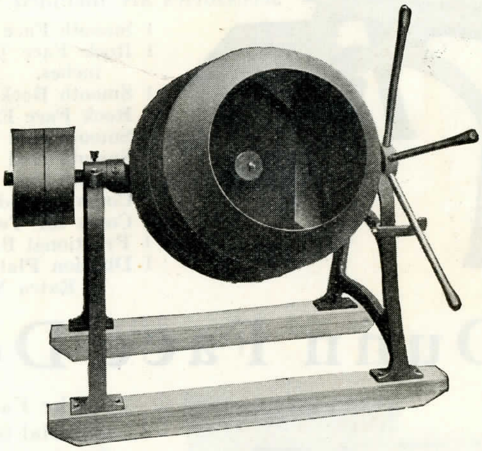


### No. 1 on Skids

Specifications

| | |
|---|---|
| Style: | Batch mixer. |
| Capacity: | 5 cubic feet to batch. |
| Size of Drum: | 30 inches inside diameter, 35 inches long. |
| Discharge: | Hand wheel. |
| Mounting: | Wooden skids. |
| Drive: | Tight and loose iron pulleys on shaft, 16 inches diameter, 4-inch face. |
| Weight: | 850 pounds. |
| Speed: | 180 R. P. M. |

Price on Request



### No. 0 on Skids

Specifications

| | |
|---|---|
| Style: | Batch mixer. |
| Capacity: | 3½ cubic feet. |
| Size of Drum: | 24 inches diameter, 28 inches long. |
| Discharge: | Lever with adjustable brace for holding drum at correct mixing angle. |
| Mounting: | Wooden skids. |
| Drive: | Tight and loose iron pulleys on shaft, 12 inches diameter, 4-inch face. |
| Weight: | 600 pounds. |
| Speed: | 145 R. P. M. |

Price on Request

# Dunn Wet Process Block Machine

EVERY man skilled in concrete can appreciate the value of the wet process for making concrete blocks, compared with the semi-dry method.

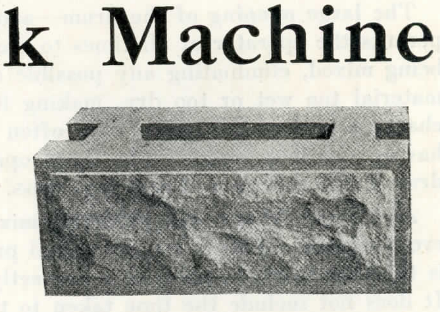
The wet process, used with the Dunn Block Machine, permits a wet mixture to be used. This insures full benefit from the cement, as it is given ample opportunity for thorough crystalization. As a result, blocks made on Dunn Machines are hard, firm, dense, and waterproof.

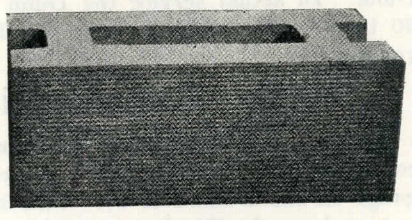
The machine shown operates on the side face principle, by which the block is forced off the core and carried away inside the mold; in this way the block is not disturbed until it is sufficiently cured to be easily handled. Not until the block has been removed from the machine is the mold released. This insures high quality blocks with true, sharp corners.

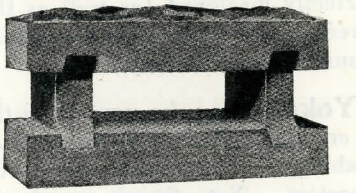
This machine also makes two-piece blocks, which are separate blocks bonded by steel rods laid in the mortar joints. This construction provides a continuous air space, the inside wall always being dry.

One man can easily make 150 blocks per day. In making one-piece blocks, the mold is placed on the machine, filled with the wet mixture, and then tamped level full. The block is then forced off the cores by pressing the foot lever, and the block, protected by the mold, is carried to the place where it remains to harden. The mold is then removed and the operation repeated. By the addition of another mold, the capacity can be practically doubled. When one man is offbearing, another man can be making another block on the machine.

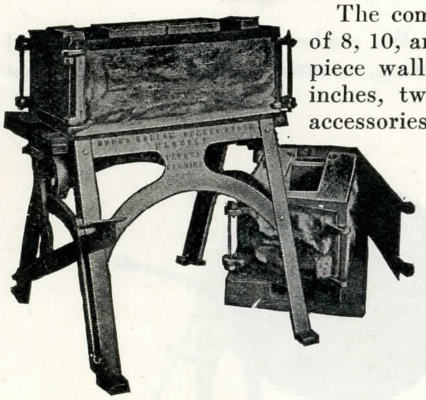
Additional cores are placed on the machine when making two-piece wall or veneer blocks, thus making two blocks at one time. Cheaply constructed wood pallets are used successfully with this offbearing system and one size pallet makes all widths of blocks.


ROCK FACE ½-IN. MARGIN EDGE


SMOOTH

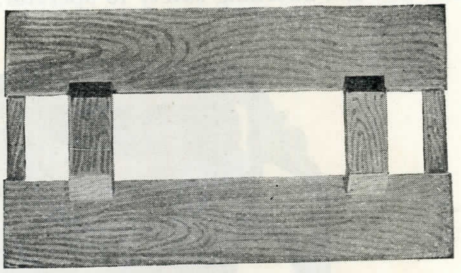

HAND HOLD

## Price, $60.00

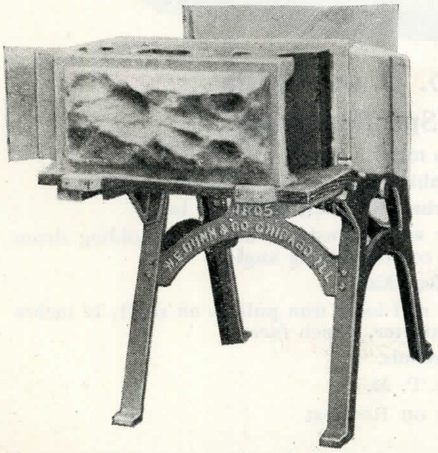


The complete outfit makes one-piece blocks in widths of 8, 10, and 12 inches, all 16 inches long. It makes two-piece wall and veneer blocks in widths of 2, 3, and 4 inches, two blocks at each operation. The following accessories are included with the machine:

1 Smooth Face Plate, 8 x 16 inches.
1 Rock Face ½-inch margin. Face Plate, 8 x 16 inches.
1 Smooth Back Plate, 8 x 16 inches.
1 Rock Face End Plate, 8 x 16 inches.
2 Smooth End Plates, 8 x 16 inches.
2 Smooth End Plates, 8 x 10 inches.
2 Smooth End Plates, 8 x 12 inches.
4 Cores for Side Face Blocks.
2 Cores for Two-Piece Wall.
1 Fractional Block Attachment.
1 Division Plate. 1 Set Tampers. 1 Sample Pallet.
Extra Mold Complete, Price $15.00.


PALLET

# Dunn Face Down Block Machine

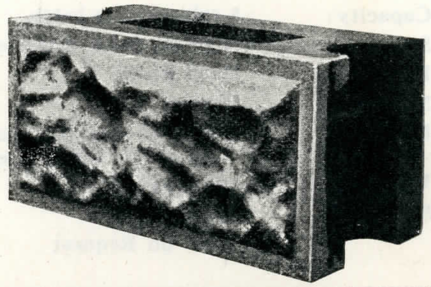


The Face Down Machine is for use in instances where the block requires facing material to be applied, the design permitting such work to be effectively accomplished. Blocks made this way require greater care in handling, and the use of a dryer mixture, as the block is carried away on the pallet and does not have the protection of the mold, as in our other machine.

## Price, $60.00

The complete outfit for making Face Down Blocks, 8 x 16 inches in size, includes the machine and following accessories:

1 Rock Face ½-in. margin Face Plate, 8 x 16 in.
1 Smooth Face Plate, 8 x 16 in.
2 Smooth End Plates with ½-in. cores, 8 x 8 in.
1 Rock Face End Plate, 8 x 8 in.
1 Face Down Core.
1 Fractional Block Attachment.
1 Set Tampers. 1 Sample Pallet.



# Dunn Concrete Brick Machine

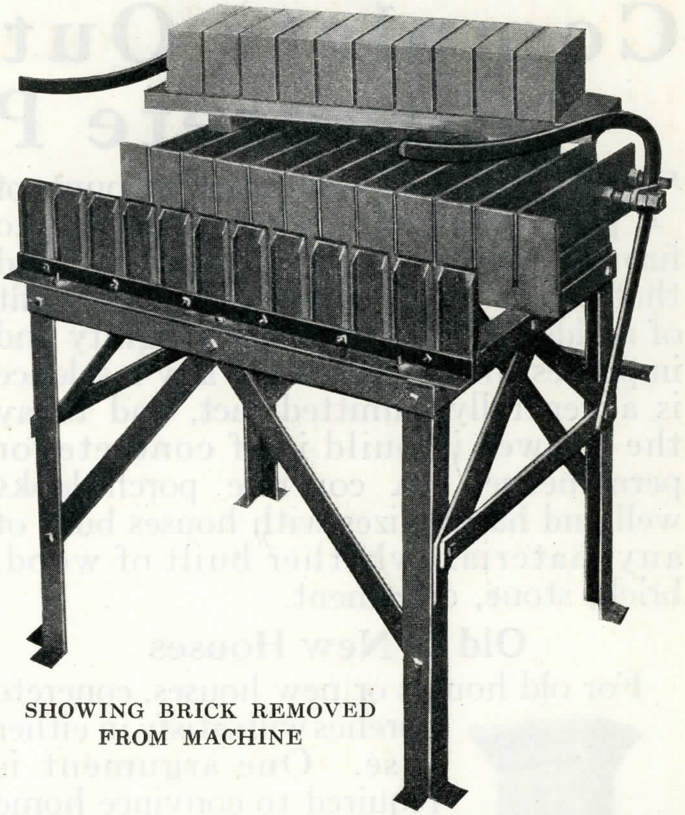
WITH the right machine, the manufacture of concrete brick can be made a highly profitable business. This is especially true today as the high price of coal has materially increased the cost of manufacturing clay brick, because it takes about one ton of coal to properly burn a ton of clay brick.

Concrete brick, made with the wet process, is equal to the best pressed brick made, and for many purposes is preferred because of its greater density and lasting qualities. Concrete brick is especially desirable for chimneys, porches, foundations, etc.

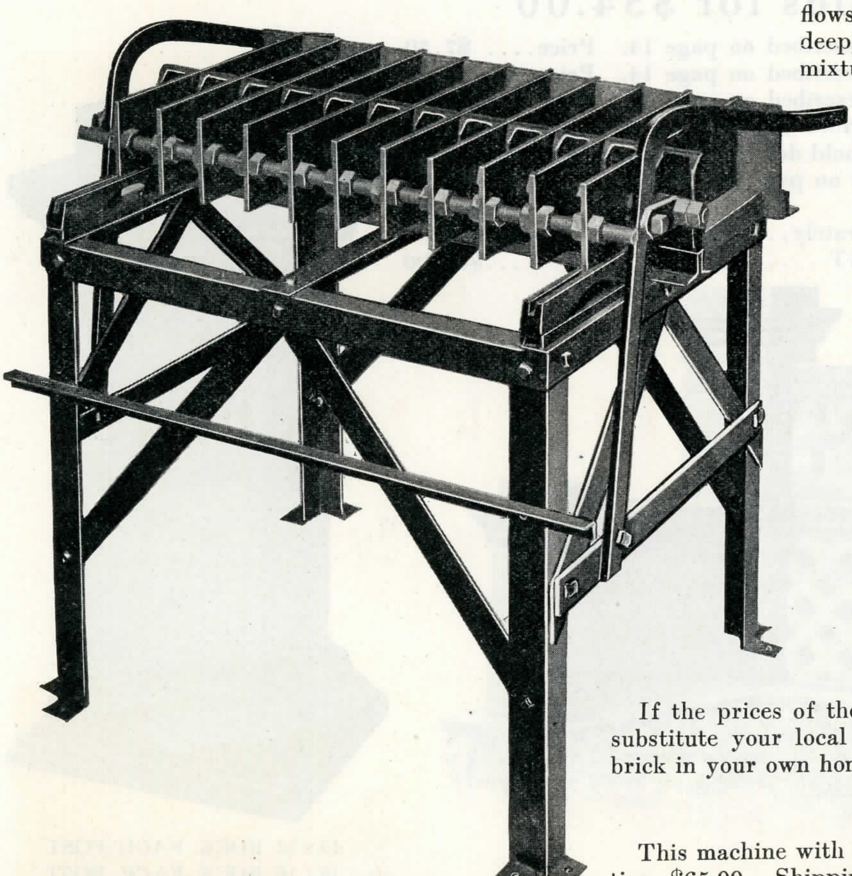
The Dunn Brick Machine is not a complicated mass of machinery; but a simple, easily operated device that will make a perfect WET PROCESS brick at a minimum cost and deliver them intact to the curing racks.

The operation is remarkably simple. There is a set of ten molds separated by heavy, cold drawn steel dividing plates, moved by the two levers at each end of the machine. A removable hopper is located on top for filling, which smooths off the top of the brick after tamping. The whole set of ten brick are started, finished AND CARRIED AWAY on the same wooden pallet, without turning, so that there is no chance of cracked brick.

In the manufacture of concrete brick we have planned for the use of the wet process, this insuring the highest grade product.



SHOWING BRICK REMOVED FROM MACHINE



REAR VIEW OF BRICK MACHINE

First a wet mixture is poured into the hopper, which flows over the bottom of the molds about one-half inch deep, after which the hopper is filled with a semi-wet mixture and tamped down. The dryer material absorbs the excess of water, producing a smooth, dense surface on the face of the brick.

This is the only machine that permits the brick to be removed from the machine and set down in the curing yard without turning over.

The turning operation necessarily results in more or less chipping and cracking, rendering the brick useless except for foundation work, and means MORE WORK, MORE EXPENSE, POORER QUALITY. Our machine, wet process, and perfect system of off-bearing eliminates these difficulties absolutely; the brick cures exactly as made. LESS WORK, LESS EXPENSE and PERFECT QUALITY.

One man with materials furnished can make 2,000 brick per day.

**Approximate Cost of Making 1,000 High Grade Concrete Brick, Proportions One to Five**

| | |
|---|---|
| 2 barrels of cement, at $2.25 | $4.50 |
| 1½ yards of sand, at $1.00 | 1.50 |
| 1 laborer | 3.50 |
| Cost of 1,000 brick | $9.50 |

If the prices of the materials are not the same it is an easy matter to substitute your local prices and find the actual cost of making cement brick in your own home town.

## PRICE, $65.00

This machine with tamper, hopper, and sample pallet, ready for operation, $65.00. Shipping weight, 275 pounds.

# Complete Outfit of Molds for Concrete Porch Blocks

THERE is an unlimited amount of profit awaiting any man equipped to furnish porches built of concrete, and that means any man who has this outfit of molds. That a porch adds dignity and improves the appearance of any residence is a generally admitted fact, and today the answer is build it of concrete for permanence. A concrete porch looks well and harmonizes with houses built of any material, whether built of wood, brick, stone, or cement.

## Old or New Houses

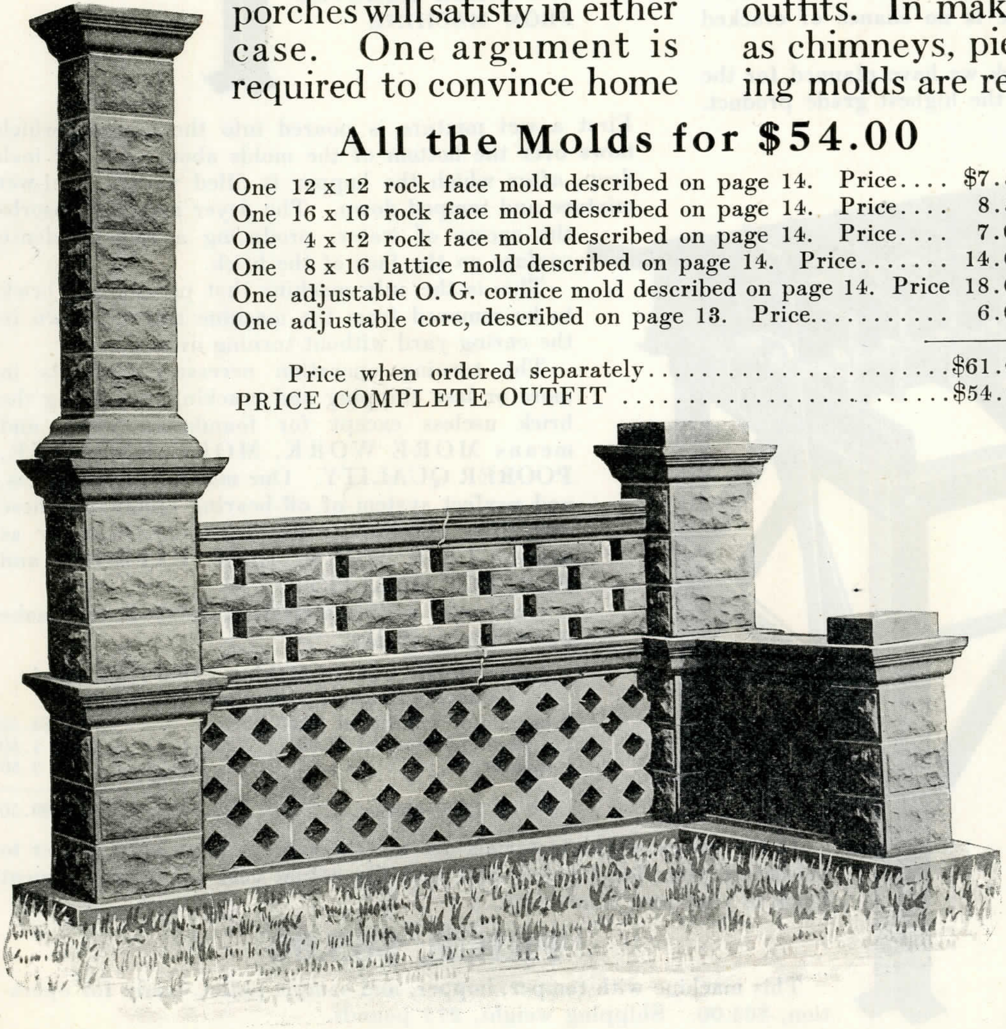
For old houses or new houses, concrete porches will satisfy in either case. One argument is required to convince home owners how wood porches rot and decay, while a concrete porch lasts and stays good for all time without painting.

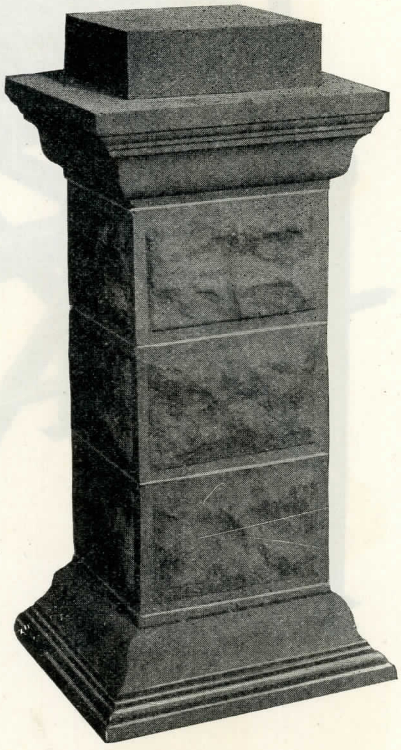
A concrete porch built with Dunn Molds is massive, symmetrical and everlasting. It can be constructed with as little cost to the home owner as a wood porch; at the same time allowing the builder a much larger margin of profit.

The section of porch, as shown, has become very popular with architects, contractors, and home builders. Any concrete products manufacturer would make no mistake in ordering one of these outfits. In making these porches, as well as chimneys, piers, posts, etc., the following molds are required:

## All the Molds for $54.00

| | |
|---|---|
| One 12 x 12 rock face mold described on page 14. Price.... | $7.50 |
| One 16 x 16 rock face mold described on page 14. Price.... | 8.50 |
| One 4 x 12 rock face mold described on page 14. Price.... | 7.00 |
| One 8 x 16 lattice mold described on page 14. Price....... | 14.00 |
| One adjustable O. G. cornice mold described on page 14. Price | 18.00 |
| One adjustable core, described on page 13. Price.......... | 6.00 |
| Price when ordered separately.......................... | $61.00 |
| PRICE COMPLETE OUTFIT .......................... | $54.00 |





12 x 12 ROCK FACE POST
16 x 16 ROCK FACE POST

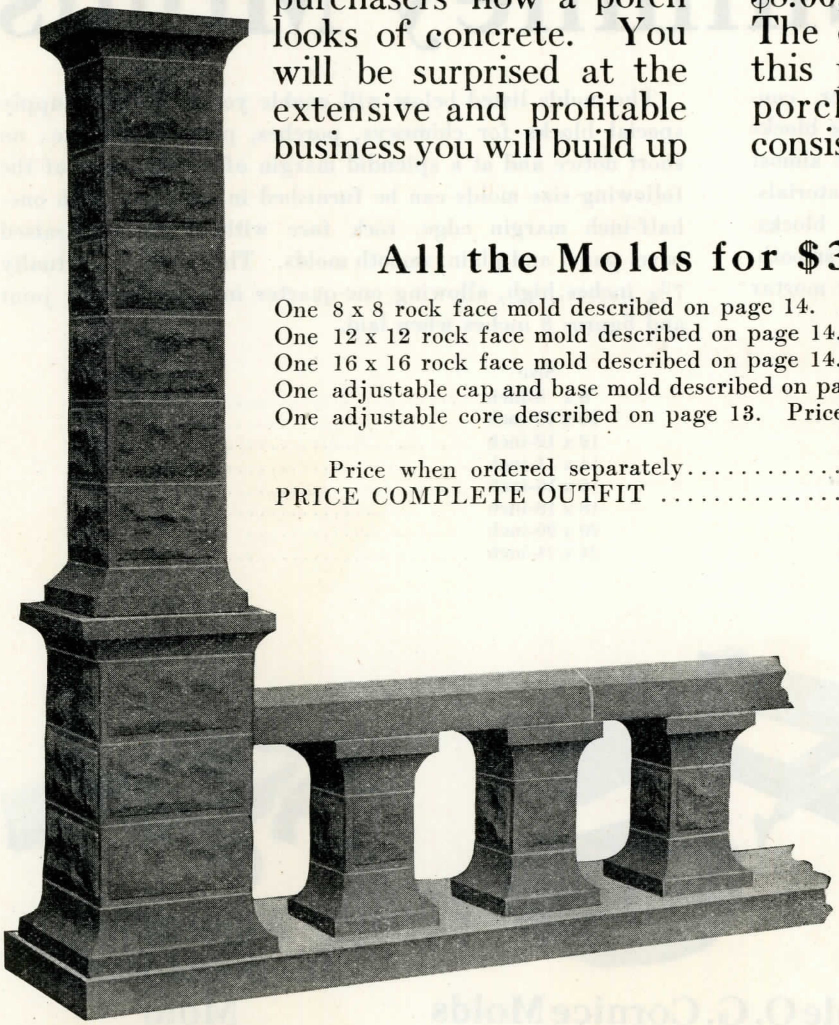
# These Molds Make Blocks for Porches, Posts, Chimneys, etc.

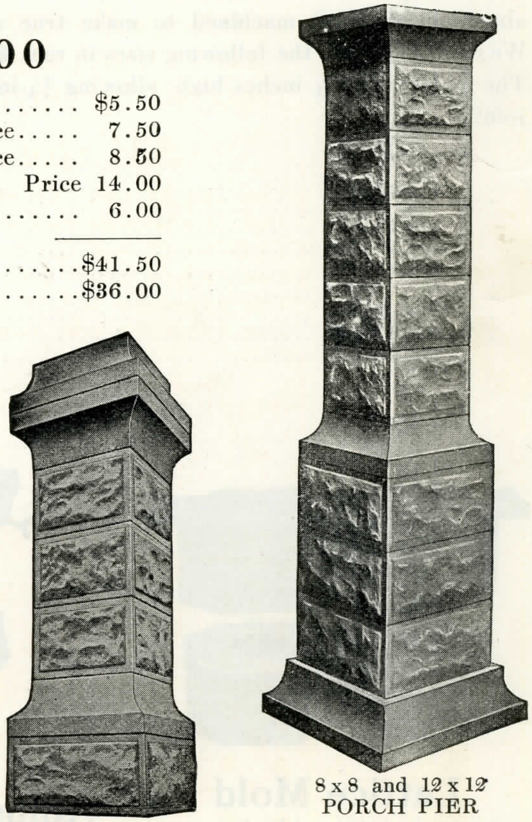
EVERY concrete products manufacturer and cement worker should have an outfit of our molds. Every home owner represents a possible profit, and you simply cannot afford to overlook this money making line. Order a porch outfit and make up a few samples, erect them in display form, and show prospective purchasers how a porch looks of concrete. You will be surprised at the extensive and profitable business you will build up in a short time, and even with fair success your profits in a few months will amount to more than the original investment.

Great care has been taken to get their artistic effects, and the molds are accurately machined to make square, true blocks. This section of porch shown, in the average location, can be made for $8.00, and usually sells at $25.00 to $30.00. The outfit listed below, besides making this porch front, makes chimney tops, porch piers, posts, etc. This outfit consists of the following molds:

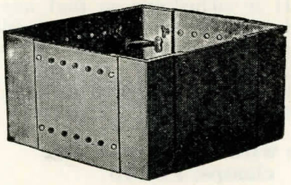
## All the Molds for $36.00

| | |
|---|---|
| One 8 x 8 rock face mold described on page 14. Price | $5.50 |
| One 12 x 12 rock face mold described on page 14. Price | 7.50 |
| One 16 x 16 rock face mold described on page 14. Price | 8.50 |
| One adjustable cap and base mold described on page 14. Price | 14.00 |
| One adjustable core described on page 13. Price | 6.00 |
| Price when ordered separately | $41.50 |
| PRICE COMPLETE OUTFIT | $36.00 |



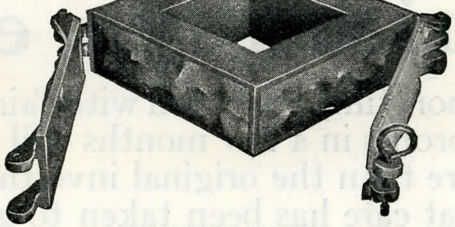


8 x 8 and 12 x 12
PORCH PIER

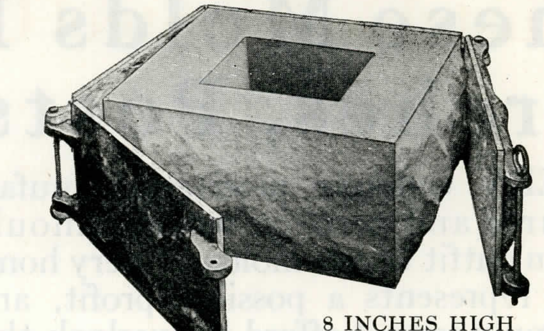


### Adjustable Core

This core can be used in connection with any of our adjustable molds and any size pier and chimney mold. It can be quickly adjusted to make any size core in practically any block. It is adjustable from six to fourteen inches. Price, $6.00.



4 INCHES HIGH
12 x 12-INCH ROCK FACE MOLD



8 INCHES HIGH
16 x 16-INCH ROCK FACE MOLD

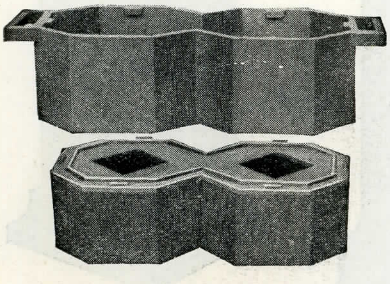
# Pier and Chimney Molds

NEARLY every concrete products manufacturer, contractor, or builder has calls for square rock face blocks for many purposes. Some of the following sizes are almost a necessity. These molds are made of best materials, aluminum finished, machined to make true square blocks. We can furnish all the following sizes in rock face or smooth. The molds are 3¾ inches high, allowing ¼-inch for mortar joint.

| Size | Price |
|---|---|
| 4 x 4-inch | $3.75 |
| 6 x 6-inch | 4.00 |
| 8 x 8-inch | 4.25 |
| 10 x 10-inch | 4.75 |
| 12 x 12-inch | 5.25 |
| 14 x 14-inch | 5.50 |
| 16 x 16-inch | 5.75 |
| 18 x 18-inch | 6.00 |
| 20 x 20-inch | 6.25 |
| 24 x 24-inch | 6.50 |

The molds listed below will enable you to quickly supply special blocks for chimneys, porches, piers, posts, etc., on short notice and at a splendid margin of profit. Any of the following size molds can be furnished in rock face with one-half-inch margin edge, rock face without margin, raised bevel panel and plain, smooth molds. The molds are actually 7¾ inches high, allowing one-quarter inch for mortar joint and figures 8 inches when laid.

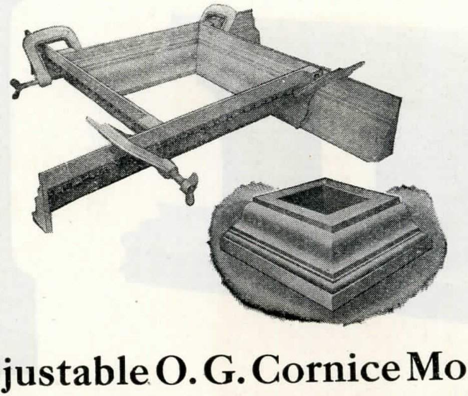
| Size | Price |
|---|---|
| 8 x 8-inch | $5.50 |
| 10 x 10-inch | 6.00 |
| 12 x 12-inch | 7.50 |
| 14 x 14-inch | 8.00 |
| 16 x 16-inch | 8.50 |
| 18 x 18-inch | 9.00 |
| 20 x 20-inch | 9.50 |
| 24 x 24-inch | 11.50 |



## Lattice Mold

Concrete lattice blocks are in demand for many purposes. For porch fronts, ornamental fences, etc. They sell readily at 30 cents each and can be easily made at eight cents to ten cents. The block can be made three or four inches thick and is made face down, permitting the use of a rich mixture for the face of the block.

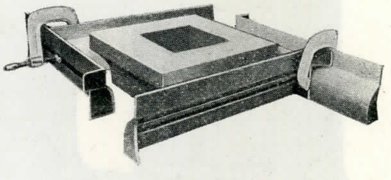
**Price of the complete mold, $14.00**



## Adjustable O. G. Cornice Molds

This mold makes blocks six inches high, and is adjustable in widths from four to twenty-four inches, and in length up to twenty-four inches. As the block tapers six inches on each side it gives a well proportioned effect, especially for ornamental work. This block in various sizes is well adapted for piers, ornamental posts, porch railings, steps, etc.

**Price of complete mold with special malleable clamps, $18.00**

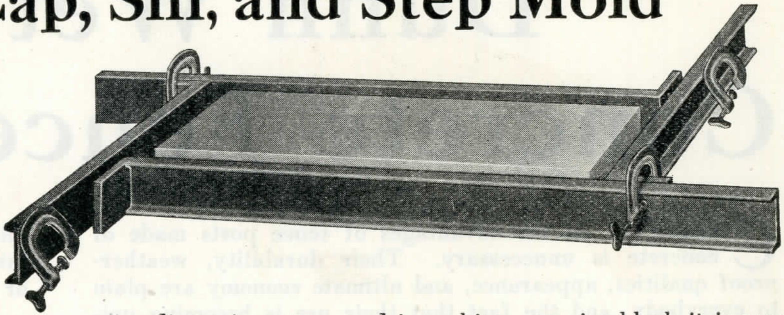


## Adjustable Cap and Base Mold

Makes over 250 different sized blocks. It is adjustable so that any size block can be made up to 24 inches, and from four to six inches high. The block is well adapted for cap and base of piers, porch railings, chimney top, posts, etc.

**Price with special malleable clamps, $14.00**

# Adjustable All-Steel Cap, Sill, and Step Mold



THIS mold is so handy and can be used for such a great variety of work that no man in the concrete business can afford to be without one. It costs less than one made of wood, will never warp and always remains perfectly true. It is adjustable for making all widths from two to twenty-four inches, and in lengths from two to seventy-two inches.

This mold is self-squaring and quickly set to make any size block desired. Being made of heavy steel throughout there is absolutely no spring to the plates and they cannot be tamped out of alignment. The mold is furnished with special heavy malleable clamps. The mold can be used for making blocks for porch steps, caps and sills; in fact any size dimension stone, and in making any size block it is sure to be square and true. This mold can be furnished in three heights at the following prices:

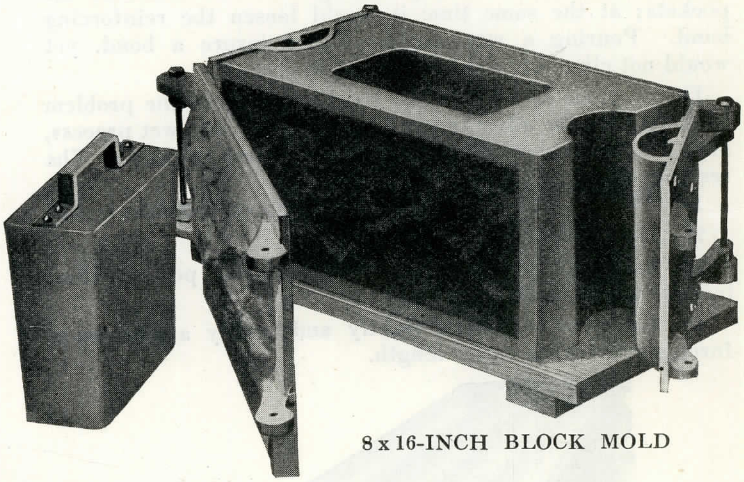
| Height | Weight | Price |
|---|---|---|
| 4 inches | 125 pounds | $22.00 |
| 6 inches | 175 pounds | 25.00 |
| 8 inches | 230 pounds | 28.00 |

# Dunn Concrete Block Mold

This mold is especially adapted for making small quantities of blocks. It will make them economically and of high quality. The block can be made where it remains to cure and the mold removed, thus permitting the use of the wettest possible mixture because the block is not disturbed after the mold is removed, until cured. The block can be made on any level floor or wood boards and save the expense of expensive or special pallets. This sometimes means a saving of $50.00 to $75.00. The outfit is complete for making regular wall blocks, corner blocks, half blocks, in either rock face or smooth designs, and consists of the following:

1 Rock Face Plate.
1 Smooth Back Plate.
2 Smooth End Plates with Cores.
1 Rock Face End Plate.
1 Center Core.
1 Dividing Plate.
1 Half Block Attachment.
1 Tamper.

| Size | Weight | Price |
|---|---|---|
| 8 x 16-inch mold | 125 pounds | $12.00 |
| 10 x 20-inch mold | 175 pounds | 15.00 |
| 12 x 24-inch mold | 200 pounds | 18.00 |



8 x 16-INCH BLOCK MOLD

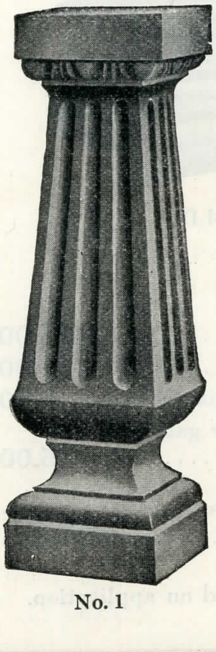
## Porch Railing Molds

These molds are accurately made and can be furnished in two designs, No. 1 in the following sizes:

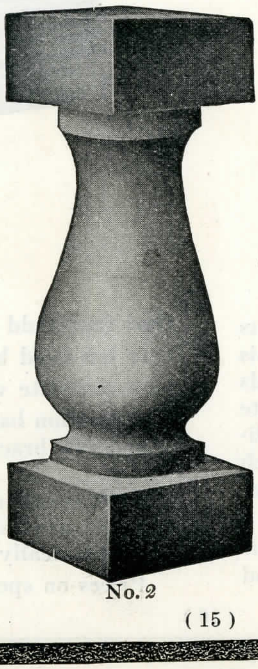
14 inches high by 4½-inch base .....$14.00
16 inches high by 5½-inch base .....$16.00
18 inches high by 6-inch base ............$17.00

No. 2 furnished in one size only:

18 inches high by 6-inch base ............$16.00



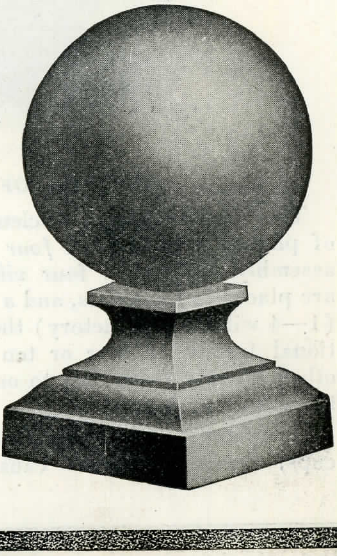
No. 1



No. 2

## Concrete Ball Molds

| Diam. of Ball | Total Height | Price |
|---|---|---|
| 6-in. | 12 in. | $15.00 |
| 8-in. | 14 in. | 18.00 |
| 10-in. | 19 in. | 20.00 |
| 12-in. | 23 in. | 22.00 |
| 15-in. | 32 in. | 25.00 |
| 16-in. | 33 in. | 25.00 |



# Dunn Wet Process Concrete Fence Post Molds

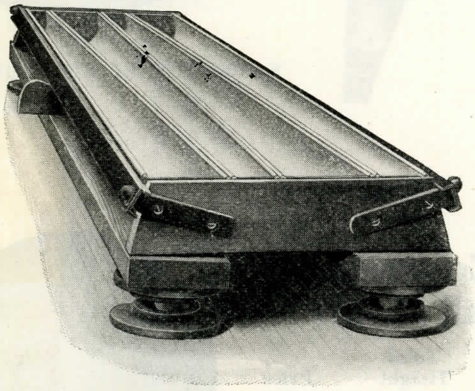
COMMENT on the advantages of fence posts made of concrete is unnecessary. Their durability, weatherproof qualities, appearance, and ultimate economy are plain to everybody, and the fact that their use is becoming universal among farmers, railroads, and other users, is evidence of their popularity. Right now the manufacture of concrete fence posts, with a good demand already existing, is a highly profitable business.

Good posts must be *strong* above all things. This means: 1—the use of a coarse aggregate; 2—a perfect bond between the concrete and the reinforcing; 3—absence of air and water pockets. The problem has been a process that would compact the mass, yet still not loosen the bond between concrete and steel rod.

Tamping a fine, semi-dry aggregate would eliminate air pockets; at the same time it would loosen the reinforcing bond. Pouring a wet mixture would insure a bond, yet would not eliminate the air and water pockets.

Dunn Molds and Vibratory Base have solved the problem by combining the advantages of both the dry and wet process, at the same time eliminating the objections of each. The result is:

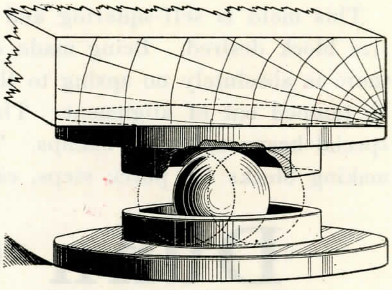
1. The use of a coarse aggregate, poured wet into molds.
2. Omission of hand tamping.
3. Concrete is compacted (air and water pockets eliminated) by *vibration.*
4. Concrete is packed tightly and evenly around reinforcing rod for its entire length.



BATTERY OF FOUR MOLDS

This method is very efficient, yet very simple. It consists of placing a battery of *four or ten* molds in a frame, this assembly resting on four *vibrators.* The reinforcing rods are placed in the molds, and a wet, coarse mixture of concrete (1—4 will be satisfactory) then poured in. If desired, additional frames of four or ten molds can be placed on each other, so that from four to one hundred molds can be above the vibratory base.

Compacting is accomplished by the balls rolling in their cups, these movements causing the frames to rock and vibrate, and the particles of concrete in the molds to settle into a compact mass. The assembly is vibrated for a minute or two, and then left to set for 12 to 24 hours.



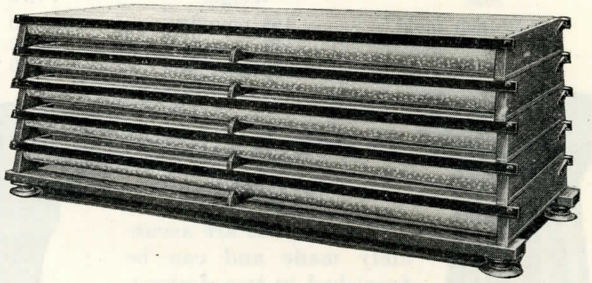
DETAIL OF VIBRATOR

Posts are the two-thirds round type, free from corners and sharp edges. It tapers from 5 inches in diameter at bottom to 3 inches at top. Standard line post is 7 feet long, and weighs 70 to 75 pounds.

The molds are made of galvanized steel, reinforced with two ¼-inch round rods running the full length of mold, and extending 1-inch at each end; this forms the means of suspending the molds in the frames. Any kind of reinforcing rods can be used with our wet process.

Our Corner or Gate Post Mold is made in connection with two brace post molds.

The Corner or Gate Post Mold makes posts 8 feet in length, 8 inches in diameter at the bottom and tapers to a 6-inch diameter at the top. The brace posts are made 8 feet long and 3½ inches in diameter. These braces are not made tapered.



BATTERY OF FIFTY MOLDS

## PRICES

| | |
|---|---|
| One four-mold battery complete | $16.00 |
| One ten-mold battery complete | 33.00 |
| One complete vibratory base for either size battery | 8.00 |
| Combination battery for making corner or gate post, and two brace posts | 15.00 |

A discount of 10 per cent allowed when six or more batteries are ordered at one time. Besides this number makes an economically operated outfit.

Prices on special sizes or lengths quoted on application.

NO HOT BALL

RUNS ON GAS OILS

NO MAGNETO

RUNS ON SOLAR OILS

NO SPARK COIL

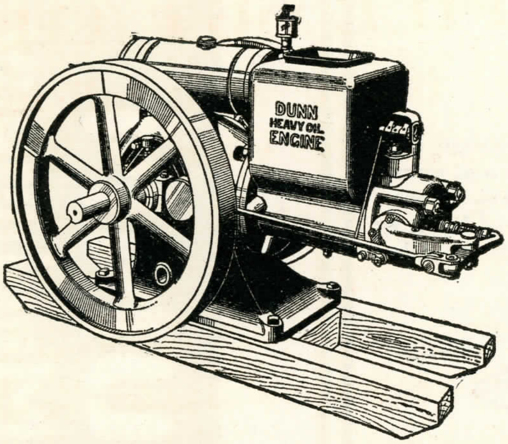
RUNS ON DISTILLATES

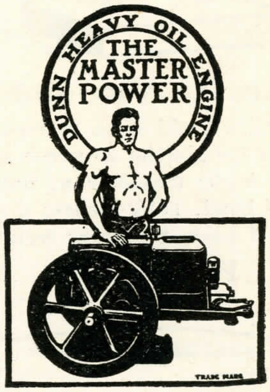
NO HOT TORCH

RUNS ON COAL OILS

# DUNN Heavy OIL ENGINE

"The Master Power"





## *Most Dependable, Efficient, and Economical Internal Combustion Engine Ever Devised*

THE DUNN ENGINE starts directly and operates perfectly on heavy oil without a carburetor, preheating or the use of a spark of any kind, which means there are: No carburetor or mixing valve to adjust; no vaporizing of the fuel to give trouble in starting; no bulbs or tubes to heat with a blow torch; no batteries to renew or give trouble; no spark plug to clean or buy; no spark coil to get wet or to adjust; no magneto to get short circuited or to adjust; no connection to get loose or wires grounded; no timer to wear or get out of order.

**Starts easily.** The Dunn Oil Engine is started by simply turning on the fuel (kerosene or crude oil), the intake valve held open, preventing compression, the fly wheels turned two or three times, and on the first or second compression the engine starts right off. It never misses, back-fires or stalls, and starts as easily in winter as on the hottest summer day.

**In cold weather,** kerosene or heavy oil will not vaporize without heating, even gasoline refuses, which gives trouble in starting, as every user of standard gasoline engines knows. In the Dunn Engine, the fuel is not vaporized, so that the temperature or climatic conditions have no effect either when starting or operating.

**Burns all the fuel.** In the Dunn there is perfect combustion of all the fuel—every heat unit it contains is turned into power. Even the carbon producing elements in the fuel are consumed, eliminating carbon troubles, which is not true of engines where there is incomplete combustion.

This is proved by the fact that it only takes one-half the fuel (heavy oil) to produce power that it takes of more expensive fuel in a gasoline or so-called kerosene engine, where a large part of the fuel is not consumed in burning, but comes out of the exhaust pipe in the form of smoke or vapor.

**Why pay $9.00 for power** that can be produced for $2.16? A standard 5 H. P. gasoline engine, pulling a full load for ten hours, will approximately use six gallons of gasoline. With gasoline at 25 cents per gallon, the fuel cost would be $1.50 per day, or $9.00 per week.

**A 5 H. P. Dunn Engine** consumes only three gallons of kerosene, pulling the same load for the same length of time. With kerosene at 12 cents per gallon, the operating cost would be 36 cents per day, or $2.16 per week; a saving of 76 per cent in favor of Dunn Engine.

**The Dunn Engine** will successfully operate on fuel oil; or even crude oil just as it comes from the ground. Where these fuels are available, the cost of producing power is reduced one-half.

**The principle** of the Dunn Engine was developed some twelve years ago and has been in common use in Europe for ten years. It is similar to the Diesel Engine used in all modern submarines, except that it is more simple, as the costly and complicated air compresser is eliminated.

**Dunn Engines,** for more than three years, have been tested, tried and found perfectly satisfactory under various conditions, both in this and foreign countries, and operating on different heavy oils.

**Dunn Engines are so simple and efficient,** their operation so cheap and reliable, their high class construction so thoroughly proved during the past three and one-half years, that we do not hesitate to give a stronger and more binding guarantee than is given on gasoline engines. Write for special literature and prices.

RUNS ON LARD OILS

NO BATTERIES

RUNS ON DISTILLATES

NO HOT BALL

RUNS ON RESIDIUMS

NO CARBURETOR

RUNS ON SOLAR OILS

NO SPARK PLUG

RUNS ON TAR OILS

NO SPRAY NOZZLE

RUNS ON STOVE OILS

NO CARBURETOR

RUNS ON SPERM OILS

NO WIRING

RUNS ON STAR OILS

NO TIMER

RUNS ON KEROSENE

NO MIXING VALVE

NO WIRING

RUNS ON KEROSENE

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RUNS ON CRUDE OILS

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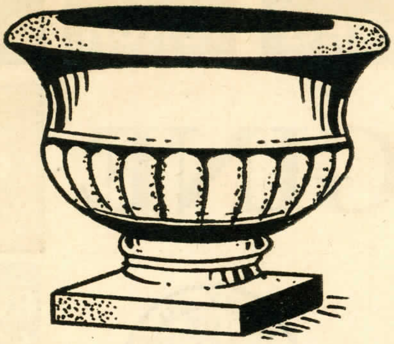
RUNS ON TAR OILS

NO MIXING VALVE

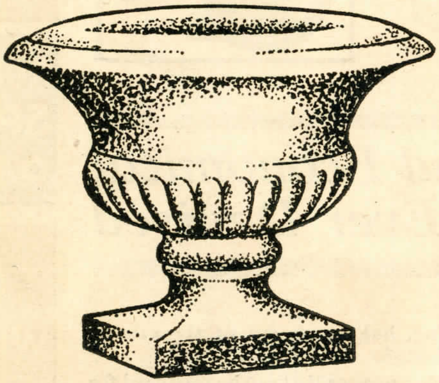
RUNS ON FUEL OILS



## No. 0. Vase Mold

The No. 0 Dunn Mold is an attractive design and a convenient size for placing on porch posts and piers. It is 12 inches high; diameter at top, 15½ inches, and diameter of bowl, 11½ inches; depth of bowl, 8 inches; square of base, 8 inches; weight, 80 pounds.

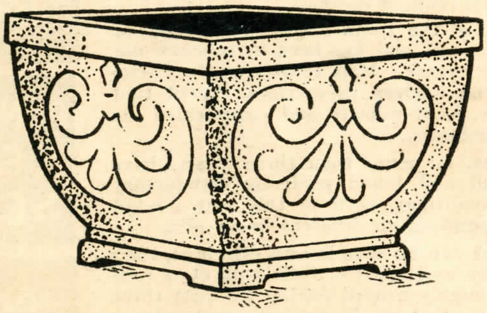
**Price, $22.00**



## No. 1. Vase Mold

Dunn Vase Molds are made in four sections which are securely locked together when vase is being made. These sections are easily and quickly released in removing from finished vase. The No. 1 Mold is 19 inches high; diameter at top, 25 inches; diameter of bowl, 18 inches; depth of bowl, 10 inches; square of base, 12 inches; weight, 170 pounds.

**Price, $40.00**



## Antique Flower Box Mold

This Flower Box is very attractive. Every home owner wants one after seeing it. This mold is 14 inches square at the top, 10 inches square at the base, and 10 inches high. The core is 12 inches square and 8 inches deep. Weight, 90 pounds.

**Price, $21.00**

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5% DISCOUNT On DUNN Concrete Machinery

W. E. DUNN MFG. CO. HOLLAND MICH.